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MILK RIVER WATERSHED NEWS

MARCH 1999
VOLUME 2 NUMBER 1

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Special Insert:
Highlights of Milk River Watershed Conference

Coming Next Issue:
History of Paradise Valley Irrigation District
by John Overcast

Milk River Workshop: A Roaring Success

by Rich Moy

Over 200 people attended the educational workshop entitled "Milk River: International Life Line of the Hi-Line" held January 30,1999 at MSU Northern in Havre. "What I heard participants say today is that collaboration and coordination is the key for improving water management in the basin," noted Mary Ellen Wolfe, as she summarized the conference findings at the end of the day. The beautiful weather and dry roads made it easy for people from throughout the basin to attend the workshop. More than 30 Canadians were among those listening to and participating in the workshop.

The highlight of the conference was the premiere of a 30-minute video of the basin entitled "Milk River: International Lifeline of the Hi-Line." The video provided an overview of the Milk watershed, the diversity of users who rely on it, and current management responsibilities. The video and a user's guide may be ordered for $10.00 each from the Montana Water-course. (Phone 406-994-6671 or e-mail mwolfe@montana.edu.) Many participants remarked about the professionalism and high quality of the video as well as its enormous educational value. A follow-up video is planned that will address issues and concerns in the basin.

Over 20 beautifully done displays surrounded the conference room. Sask Water had four displays describing Parks Canada and the Cyprus Hills Provincial Park, the eastern tributaries in Saskatchewan and Saskatchewan environment and resource management. Other displays included Project WET Montana, salinity control, Walleyes Unlimited, Pheasants Forever, Agri-Met, watershed management, tribal water management, new water quality laws dealing with point and non-point source pollution, GIS maps of irrigation in the basin, and the Bureau of Reclamation Milk River irrigation project. Please refer to the article on the insert for further description of the workshop. ■

Snow Pack Looks Good

by Mike Dailey

The water supply forecast for the Milk River Basin is looking good this year. As of March 1, 1999, the Bureau of Reclamation shows total precipitation 123% of average and snow-water equivalent exceeding 130% of average in both the Milk and St. Mary River basins. The average snow-water equivalent generally peaks in early April and both basins have already surpassed these peak averages. As of March 1, total storage volumes for the Milk River Reservoirs are:

Sherburne Reservoir: 17,383 acre-feet; 70% of normal

Fresno Reservoir: 44,575 acre-feet; 105% of normal

Nelson Reservoir: 35,749 acre-feet; 100% of normal

Sherburne Reservoir was drawn down last October, to inspect the dam and outlet works, which accounts for the below normal reservoir level. With above average snow pack of 126% at Many Glacier, it should not be difficult to fill Sherburne Reservoir this spring. ■

"If you would like to contribute an article or editorial to this newsletter, have ideas or suggestions for improvements, or wish more information about these articles, please contact any member of the planning committee listed on the back page."

Facts about the Paradise Valley Irrigation District

by John Overcast

Editor's note: We plan to ask each division or district to provide the following information in upcoming newsletters. We appreciate the efforts of John Overcast in putting this information together for us.

GENERAL INFORMATION

Total Acres:	*8,315 acres*
Number of Farms:	*63 farms*
Water Price(s):	*$12.75 per acre charged annually*

Diversion: *Paradise Valley Irrigation District Concrete Dam. The dam has a 100 foot spillway with steel stands and boards that are removed in the off-season, a large gate is opened to lower the river during winter.*

Miles of canals and laterals: *35 miles of canal and 70 miles of drainage ditches.*

Board Members:	*John G. Overcast,* ***President***
	Ernest Johnson, ***Vice President***
	Bim Strausser, ***Member***
Number of employees:	*Full Time 0*
	Part Time: 1 secretary (monthly fee) and 1 ditch rider (six months)

QUESTIONS AND ANSWERS ON THE OPERATION OF THE PARADISE VALLEY IRRIGATION DISTRICT

Question: How does Paradise Valley Irrigation District charge water users?

Answer: The District charges one annual fee per acre of land irrigated.

Question: How are district taxes collected?

Answer: The District sends an assessment list to the county treasurer which lists the annual charge per acre of land irrigated for each account (General, Dam, St. Mary, O&M etc.). The Treasurer collects property taxes and deposits the District assessments into an interest bearing account until used.

Question: What types of crops are grown within the district and approximate percentages for each crop?

Answer: 70% alfalfa; 25% small grains; 3% alfalfa seed, peas, potatoes; and 2% miscellaneous.

Question: How does the district ensure a fair distribution of water?

Answer: The ditch rider records the time when each pump or turnout goes on and off. Flows can be checked with an electronic flow meter. Weirs will soon be installed on all laterals.

Question: What is the district's policy when a user is observed wasting water, and how is the policy enforced?

Answer: The ditch rider or a board member will talk with the water user. No fines are given at this time.

Question: What recent improvements (if any) have been made to the district's system?

Answer: Improvements included: lining of 3,500 feet of canal; replacing some laterals with PVC pipes; replacing field ditches with approximately 30 miles of PVC pipe; cleaning many of the drainage ditches; installing a hydromet station; installing new slide gates in the larger checks structures; and installing new walkways and rails for safety on a number of checks.

Question: What are the future plans, and long term and short-term goals for the district?

Answer: We plan to install and use more PVC pipe, line more of the canal to reduce seepage, and improve water measurement.

Question: In a sentence, what changes would you like to see take place in the Milk River Basin in the next 10 years?

Answer: We would like to see a Board of Control established to manage the operation and maintenance of the Milk River Project. ■

Workshop Identifies "Cooperation" as key to Improve Water Management

by Rich Moy
Photos by Mary Ellen Wolfe & Paul Azevedo

Highlights of the Milk River Workshop held at MSU Havre on January 30 are summarized below.

Woody Ekegren of MSU Extension Service and Kate Miller of MT Bureau of Mines and Geology began the conference by describing the physical aspects of the basin's hydrology. Ekegren emphasized that there are no average years in the Milk River. He noted that "we do not know from one month to the next whether it will be a good or bad year for moisture and irrigation water. It seems that the Milk River is either flooding or in drought." Randy Perez of the Fort Belknap reservations talked about the role the tribes on the Blackfeet, Rocky Boy and Fort Belknap reservations played in the history of the basin. Mary Ellen Wolfe ended the morning session by covering the history of activities in the basin and showing the video, "Milk River: International Life Line of the Hi-line."

The afternoon session began with a panel discussion by water users on current issues confronting residents in the basin. Max Maddox, a local irrigator, noted that living in the Milk River basin is a "hard life", and that almost everyone has an association with irrigated farming. He also pointed out that the Milk River water is used and re-used a number of times as it flows from the eastern crossing to the confluence with the Missouri River.

Over 200 people attended the workshop at MSU Northern.

Anne Boothe, representing tourism and recreation, felt these two industries have had a positive impact in the Milk River Basin, but until the mosquito problem is solved, tourism may not increase much further.

Rob Wiebe of Swift Current, Saskatchewan and Wally Elliott of Chinook share thoughts on the Milk River Basin during a break in the workshop.

Rob Wiebe of Sask Water felt the real issue that needs to be addressed is more storage reservoirs. He noted that Saskatchewan loses a significant amount of water to Montana based on the international apportionment of flows between Montana and Saskatchewan. He further emphasized that "we [Montana and Saskatchewan] must work within the existing framework [of the apportionment and lack of storage] to more efficiently manage our shared water resources." Ian Franks, Alberta Environment talked about the water needs of Alberta.

Lynn Cornwell, representing the ranching industry stated, "We must support Governor Racicot's Vision 2005 that calls for 500,000 acres of new irrigation. We need to try to figure out how to enhance irrigation in the Milk River. We have talked about this for years, now we need to take action."

Pancho Bigby, of the Fort Belknap tribes, started by saying, "I must throw cold water on the enthusiasm toward more water development by this group. The Fort Belknap reservation is like a third world country. We have over 13,000 potential irrigable acres, but only about 500 acres in irrigation. We have the same dreams, but we do not have the same opportunity like our neighbors outside the reservation to participate in federal [water development] programs. We would also like to participate in the governor's Visions 2005 dream."

Other panel participants included, Kristi Kline, from Havre Water Treatment facility, who talked about municipal water use issues and Kent Gilge who described the fish and wildlife resources of the basin.

Based on these presentations, the Dilemma Derby began. Participants broke into ten groups and each group addressed and identified solutions to one of the following five dilemmas:

1) Saskatchewan is facing drought conditions in the Frenchman Basin and there is not enough water to satisfy the basic provincial water needs and still meet the international apportionment for delivering water to Montana. What can be done to resolve this dilemma?

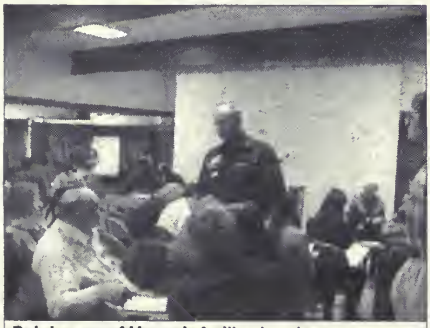
2) Water for upstream junior water users in the Milk River basin will be less after the native American senior water rights are quantified and perfected. What can be done to maintain a reliable water supply?

3) The Milk River basin already experiences water shortages in four out of ten years and you just heard that Alberta plans on building a storage project to utilize its allocated share that Montana has enjoyed for all these years. What options are available to resolve this dilemma?

4) Water quality in the lower Milk River basin has deteriorated from discharges or runoff from sewage treatment plants, fertilized agricultural fields, and animal feed lots throughout the basin. Federal and state law requires that you cleanup this poor water

quality. How would you solve this dilemma?

5) Deteriorating infrastructure, endangered species, and native American water rights impact the ability of irrigators to receive a reliable water supply. What options are available to the Irrigation Districts to solve this dilemma?



Bob Larson of Havre is facilitating the group discussion on one of the five Milk River Dilemmas.

Each group presented its findings. They talked about the need for better water management, and the importance of cooperation for addressing poor water quality issues, water shortages, inefficiencies in water use, and aging and deteriorating infrastructure such as Dodson and Vandalia diversion structures. They felt it is important to work with the Reserved Water Rights Compact Commission in resolving reserved water rights of native Americans. A number of the groups thought additional storage is needed. It was brought up a number of times that better international cooperation is critical for managing shared waters between Alberta, Saskatchewan and Montana.

In the final panel discussion, the participants heard about potential solutions to the dilemmas. Carol Mackin, water quality coordinator for Department of Environmental Quality described the new watershed approach for resolving water quality problems called TMDLs or Total Maximum Daily Loads. Barb Cosens, representing the Montana Reserved Water Rights Compact Commission, laid-out the major issues and components of a proposed compact with the Fort Belknap tribes that is being negotiated. She indicated that the tribe has a right for most of the natural flows of the Milk River during the irrigation season, and that the Commission is hoping to subordinate the tribal reserved water rights to water rights on the Milk River tributaries. She noted that the delivery of water from Fresno reservoir will need better coordination and enforcement. She stated " the cost of importing water into the Milk River basin is too high and it will not happen unless you are willing to pay for it." Rob Wiebe, of Sask Water re-emphasized the need for better cooperation and the importance of additional storage on the northern tributaries to resolve water shortages.

Sask Water display presenting information on the management of the eastern tributaries of the Milk River in Saskatchewan.

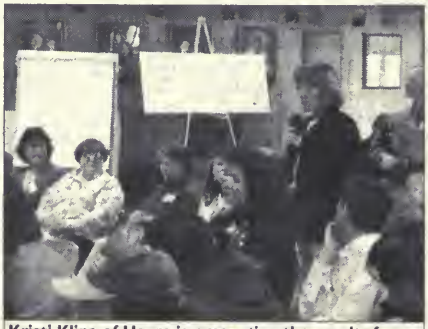
Norm Midtlyng and Bob Davis of the U.S. Geological Survey, and Russell Boals of Environment Canada described the Boundary Waters Treaty of 1909 and how the flows of the Milk River tributaries and the mainstem are apportioned. Mr. Davis mentioned that the International Joint Commission is encouraging the formation of international watershed groups to manage share waters.

Brent Esplin and Scott Guenthner of the U.S. Bureau of Reclamation concluded the panel by discussing the aging infrastructure in the Milk River basin, and the potential for augmenting water supplies into the basin. They emphasized the importance of sharing

Manson Bailey of Glasgow, and others are crafting potential solutions to their Milk River dilemma.

shortages and becoming more efficient in water use. Scott illustrated the importance of the St Marys diversion and stored water behind Fresno Reservoir. He stated that in normal years, the St Mary provides about 70 percent of the flows and about 90 percent in dry years. Most of the July through September irrigation season water in the Milk River is from water diverted from the Saint Mary River and Sherburne reservoir, and stored in Fresno.

After this panel discussion, there was a general discussion on the issues identified in the Dilemma Derby and potential options to resolve these issues. Mary Ellen Wolfe wrapped up the conference by noting that education, citizen involvement, and cooperation are the key ingredients for better water management. ■



Kristi Kline of Havre is presenting the results from her "Dilemma Derby" workgroup to conference participants.

History of Irrigation Development in the Milk River

PART 3

By Manson Bailey Jr.

IN PART 1 AND 2, I DESCRIBED THE RELATIONSHIP BETWEEN TEDDY ROOSEVELT AND BIG JOHN WILLIS AND THE ROLE WILLIS PLAYED IN THE AUTHORIZATION OF THE MILK RIVER IRRIGATION PROJECT. IN THIS INSTALLMENT, I WILL DISCUSS THE SIGNIFICANCE OF THAT RELATIONSHIP IN THE DEVELOPMENT OF THE MILK RIVER IRRIGATION PROJECT AS WELL AS SOME OTHER WATER PROJECTS WHICH PRECEEDED IT.

As stated in Part 2, the Reclamation Service (now the Bureau of Reclamation) was established by Congress in June 1902 under the Roosevelt Administration. Prior to creating the Bureau of Reclamation, a federal investigation was launched in 1891 to find ways to supplement low summer flows in the Milk River.

T.B. Burns brought his family north to Chinook from the Yellowstone in 1889. He irrigated at his former home, and after acquiring eighteen hundred acres in the Milk River Valley under the old Desert Land Act (which required the settler to irrigate) he dug canals from the river to his fields. The Great Northern Railroad Company, whose line reached Havre in 1887, was completed to the coast six years later. The railroad promptly obtained an injunction to prevent Burn's use of the water alleging that it owned rights on the entire Milk River which runs along side the railroad right-of-way for about one hundred and seventy-five miles. The company argued that it had rights to the water for its locomotive boilers. Litigation dragged on for several years, but finally Burns won. Thus, he filed the first water right on the Milk River. Burns, with his neighbors, constructed a community dam near the present site of Fort Belknap diversion dam.

The first large irrigation enterprise in the basin was the Rock Creek Canal Company North of the Milk River and east of Hinsdale. H.H. Nelson, a large sheep rancher from Cascade, had accumulated three years of wool clippings with the hope of higher wool prices, but prices continued to drop. Much to the advantage of our valley and Vandalia, Nelson had to move after his sheep operation in Cascade was shut down by financiers. On August 14, 1901, promoters W.W Woolridge and H.H. Nelson posted a notice claiming 250 cfs from Rock Creek to irrigate some 8,000 acres. The construction work was completed and on November 18, 1902 the Rock Creek Canal Company was incorporated under the laws of Montana. The original project contained 58 shares with a quarter section of land equal to one share, of which H.H. Nelson owned seventeen. Nelson, also being an earth-moving contractor, brought in horse teams, slips, freznos, and an elevating grader with bottom-dump wagons. Nelson's elevating grader used sixteen horses in front pulling and eight behind as "pushers" for a total of a "24-horse rig."

As noted in Part 2, the Milk River Project was approved on March 4, 1903, and in the spring of 1904, Reclamation Service engineers arrived to begin work on Dodson Dam. Nelson held the construction contract for the project. My uncle, Ralph Fifield, came from Maine to work as an engineer on the project. When finished, Dodson Dam would provide irrigation water for eastern Phillips County and western Valley County.

Also, there was a great effort to seek congressional approval to irrigate 18,000 acres between Vandalia and Nashua south of the Milk River. On March 21, 1905, the local irrigators elected John and Mrs. Willis as their official delegates to Washington D.C. They were requested to call upon President Roosevelt and Reclamation officials and to urge them to initiate immediate action on the part of the government in carrying out irrigation works between Vandalia and Nashua. Roosevelt invited them to stay at the White House, but John did not feel that it would be proper. They did receive the following invitation to have lunch with the President at the White House:

White House,

Washington

March 30th, 1905

My dear Mr. Willis:

The President requests me to say that he would be glad to have you and Mrs. Willis take lunch at the White House tomorrow (Friday) at 1:30 o'clock. Please advise if you accept.

Very truly yours,
(W.M. LOEB JR.)
Sec'y to the
President

Mr. John Willis

Metropolitan Hotel,

Washington, D.C.

Web Sites to Bookmark

The Internet is a huge information bank and finding what you are looking for can be time consuming and frustrating. Provided below is a list of web sites that relate to the Milk River Basin and Montana.

United States Bureau of Reclamation Great Plains Region
www.gp.usbr.gov
This site contains information regarding USBR activities. Click on Water Supply Management to access Agri-met and Hydromet data.

Natural Resource Information System
http://nris.mt.gov
This site contains hundreds of GIS maps that can be downloaded for free. This site also contains information on groundwater programs, the volunteer water monitoring program, and many additional links. More information is available per request, although there may be o fee associated with it.

United States Geological Survey
http://montana.usgs.gov
This site contains current stream conditions, various water use information and water reports.

Montana Online
www.mt.gov
Provides access to information regarding State government, education, employment opportunities, education, and announcements.

Montana Department of Natural Resources and Conservation Home Page
www.dnrc.state.mt.us
Privides Access to various DNRC activities and information including grants and loans, water rights, news and events, and water resource information. The DNRC Water Resource Regional Offices have online computers available for public use.

The Weather Channel Homepage
www.weather.com
Provides the latest weather forecasts for any city including current weather maps.

Happy surfing!

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The next day after the lunch, Mr. Willis received the following letter from the President regarding this new irrigation project. As you can see from the letter, the long-term friendship between Willis and the President opened the doors with the Reclamation Service.

White House,

Washington

April 1st, 1905

My dear Mr. Willis:

I have asked the Reclamation Bureau to take immediate action in the whole Milk River matter, and have authorized them to do what I have done in no other case-that is, to go ahead with the scheme now before them, even though this scheme will probably entail a greater expenditure of money than I have felt warranted in having the service incur elsewhere.

I am, of course, not competent to speak as between two given propositions, especially if the engineers differ among themselves. I have called for an immediate report upon the specific matters you bring up.

Sincerely yours,

(signed) THEODORE ROOSEVELT.

Mr. John Willis,

Metropolitan Hotel

Washington, D.C.

When Reclamation engineers again reviewed the Vandalia diversion proposal, they said it would not be possible to dam the river at that point and divert enough water to irrigate 18,000 acres. They believed additional storage was needed. That is when H.H. Nelson searched for and found a new dam site now known as Nelson Reservoir. This storage site satisfied Reclamation and plans proceeded. Other irrigation projects followed later.

Now, if Teddy Roosevelt had not seen that goat in the window, I might not be bringing this history to you as my dad came from Maine in 1912 as an engineer on the Vandalia Dam Project. He knew about the project from his brother-in-law, Ralph Fifield of the Dodson Project, who later held the position of project manager for the Montana Water Conservation Board.

The federal investigation that started in 1891 determined that the most feasible plan for securing a viable water supply in the Milk River was to transfer St. Mary River water from Glacier National Park into the headwaters (North Fork) of the Milk River. Both of these rivers are shared with Canada. Because of this proposed interbasin water transfer project, the Boundary Waters Treaty was entered into between Great Britain (Dominion of Canada) and the United States on Jan. 11, 1909. It provided for the division of St. Mary and Milk River flows between the United States and Canada. The St. Mary's Storage Unit in Glacier Park was authorized by the Secretary of the Interior on March 25, 1905 and the Sherburne Lake Project was completed in 1915.

Note: Some historic references: From the Irrigation Section of "Valley County History" published in Glasgow1925; "True West Magazine" September-October 1970, titled "Making a Man of Roosevelt"; The book, "On the Heels of the Buffalo, by Elizabeth Greefield (H.H. Nelson's daughter); Some excerpts from my previous writings in the irrigation section of volume 3 "Footprints in the Valley, published 1991 (a history of Valley County). Montana Resource Board, March 25, 1968 ■

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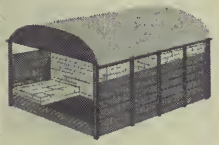
COMING NEXT ISSUE:

A Ton of Hay
By Dr. Jim Bauder



On-Farm Efficiency Study to Begin This Summer

By John Dalton

How efficient is on-farm irrigation in the Milk River Basin? Can efficiency be improved even further? These are questions that I plan on addressing this summer. I will randomly select fifty farms to visit for the purpose of estimating on-farm seasonal irrigation efficiency. Those of you who are irrigators may be contacted in the near future as potential cooperators in this investigation. Participation is entirely voluntary and the name and location of your irrigation site will not be revealed in any report.

The study is intended to be an objective analysis of seasonal irrigation efficiency, divided into monthly time steps. The study is funded by the Montana Department of Natural Resources and Conservation (DNRC) and the Bureau of Reclamation. The analysis and model will be used to assess and hopefully provide recommendations for improving overall water management in the basin.

One of the problems in preparing a model of water use is to get a handle on current seasonal on-farm irrigation efficiencies. Besides knowing on-farm irrigation efficiencies, I need to determine what the problems are for improving efficiencies, the cost of implementing

(See Study on page 2)

On-going Discussions on Forming a Joint Board of Control

by Mike Dailey

The eight Milk River Irrigation Districts have been meeting with Alan Mikkelson on the potential for forming a Joint Board of Control. Alan Mikkelsen, an agricultural consultant and irrigator from St. Ignatius, was actively involved with the formation and operation of the Flathead Irrigation Project Joint Board of Control.

The Department of Natural Resources and Conservation and the U.S. Bureau of Reclamation have placed Mr. Mikkelsen under contract to help facilitate meetings and discussions with the Milk River Irrigation Districts. Mr. Mikkelsen has drafted a set of proposed bylaws and has presented them to the districts for review and comment. According to Mr. Mikkelsen, progress is being made and he is optimistic that the remaining issues can be resolved.

The Montana Legislature in its last session revised the statute for forming a joint board of control for irrigation districts by allowing board members from multiple irrigation districts to appoint a commission member to the board at large. The member at large may be any water user that benefits from the project rather than a landowner within a district. The change does not affect existing boards. For more information on the progress of forming a Milk River Joint Board of Control, contact your local irrigation district representatives. ■

1999 Irrigation Project Tour

Greenfields Irrigation District

Saturday,
July 10, 1999,
8:30 a.m.

Departs Augusta, MT
Post Office

$30.00 Registration
Includes BBQ

For More information
call Mike Murphy, MT
Water Resources Assn.
(406) 458-6487

Milk River International Alliance

Meeting Date

Monday,
July 26, 1999
10:00 a.m. - 3:00 p.m.

Malta, MT
First State Bank Community Meeting Room

For more information
call Mike Dailey
(406) 228-2561

The Montana Office of the Bureau of Reclamation in Billings pays the cost for printing and mailing this newsletter.

Study
(Continued from page 1)

these improvements, and the likelihood that these improvements will be effective.

Roy Dunbar or I will visit the sites. Both of us are retired Natural Resource Conservation Service (NRCS) employees who have many years of experience working with on-farm irrigation improvements in Montana. Roy was a senior engineering technician who worked with irrigators for many years out of the Glasgow NRCS field office. I retired after 38 years as an agricultural engineer. I worked in California in irrigated agriculture, as the area engineer for 16 counties in eastern Montana, and finally as a statewide agricultural engineer in Bozeman. I supervised and completed a similar on-farm investigation for the Musselshell River Basin.

I will analyze the results and prepare a report that will be made available to the public. The report will become a part of a larger river basin management study. We will ask each irrigator questions about irrigation practices on representative fields. For example, if a farmer uses pivots and graded borders, we will select representative fields that use these methods. Answers to questions and observed field data will be entered on a form that will be used as the data base for conducting the analysis. DNRC will provide up-to-date maps and aerial photos including infrared aerial photos for use in the analysis.

A Farm Irrigation Rating Index process developed by NRCS will be used to estimate seasonal irrigation efficiency. Other information such as previous irrigation efficiency analysis, various irrigation computer models, and a large dosage of experience and judgement will be used to refine the analysis.

Some examples of issues that we plan on addressing include:

- Problems irrigators have in obtaining enough water when needed,
- Timing of irrigation and how irrigation is scheduled,
- Crops grown, crop rotations, and problems in production related to irrigation,
- Details of on-farm delivery systems to individual fields,
- Details of irrigation application system in the field,
- Set times, application depths and other data on how the irrigation system is operated,
- Tailwater system details and problems on how the water is used after it leaves the field,
- Irrigator's view of what might be done to conserve water, and
- Problems the operator would have in implementing efficiency improvements. ■

Spring Rains Bring Relief

by Bob Smith

As of June 6, basin moisture had improved. For example, Havre received 3.07 inches of rainfall in the two weeks prior to June 6. According to the U.S. Bureau of Reclamation, an inch of rainfall across the basin is worth about 30,000 acre-feet (AF) of storage in Fresno Reservoir.

Sherburne Reservoir had only 20,200 AF of storage or 64 percent of normal on June 1. But with Glacier National Park snow pack still high at 150 percent of normal, the Bureau feels Sherburne will still fill. Inflows into Sherburne increased to 700 cfs and outflows were lowered to 45 cfs increasing total storage by 1500 AF per day.

Fresno Reservoir is near normal with 70,700 AF on June 1. Generous amounts of precipitation fell over the basin the past few weeks, which in turn helped relieve irrigation demands for releases from Fresno Reservoir. This has allowed the Bureau to increase reservoir storage by reducing releases from 1,000 cfs to 250 cfs.

At the beginning of June, Nelson Reservoir had 68,900 AF of storage, or 113 percent of normal. Again, because of ample rainfall and high Milk River flows, inflows into Nelson Reservoir were greater than 150 cfs and the reservoir was only two feet below full pool on June 8. ■

History of the Paradise Valley Irrigation District

by John Overcast

My father's uncle came to the Paradise Valley in 1886. He traveled west with a wagon train that left Tennessee for Washington. But when the train arrived near present day Dillon, he heard there was a lot of good unclaimed land in the Milk River basin so he left the train and headed north. Upon arriving at the old Fort Belknap just southwest of what is now Chinook, he stocked up on supplies from the Tom O'Hanlon trading post and prepared for winter. He picked a spot near the Milk River east of Chinook.

Many of the early settlers survived in dugouts in the ground until they could build a cabin. This happened to be the tough winter of 1886 when Charlie Russell painted his famous picture, "The Last of the 5000." Only two men wintered in the Paradise Valley that year.

The next year, the Great Northern Railroad came through and soon people were staking out claims in the valley. The railroad advertised the valley as a place where crops would thrive without irrigation, but after a few years, the first settlers learned the real truth—irrigation was critical for survival.

During the 1890s, three irrigation companies were formed and they built diversion dams and canals in the Paradise Valley. Dams were built with the only materials available—layers of diamond willows and field rock. One dam was built by the Sprinkle - Anderson Company on the present site of Paradise Dam. The Cook Irrigation Company built another dam on Battle Creek, three miles east of Chinook, and a canal south to the Milk River that spanned the river with a flume supported by cables. Battle Creek would run water later into the season, while the Milk River would generally go dry soon after spring runoff. The Paradise Ditch Company constructed the third dam on the Milk River, seven miles due east of Chinook.

Soon everyone realized that more water was needed in the Milk River valley. The Bureau of Reclamation (formerly the Reclamation Service) was formed in 1902 and the Milk River Project was authorized the following year. The proposal to transfer water from the St. Mary River to the Milk River was authorized in 1905, and construction began in 1906.

John Overcast stands by the pilling that used to support a flume that carried water from Battle Creek over the Milk River. Known as the Cook Ditch, this private system supplied water to several thousand acres in Paradise Valley and lands north of the Milk River.

The U.S. Supreme Court decision in 1908 granting the Ft. Belknap Tribes the first 125 cfs of the Milk River, made the transfer of water from the St. Mary River even more necessary. The irrigators in Paradise Valley had already built their own dams and canals and wanted to contract with the Bureau of Reclamation (Bureau) to deliver water to their headgates. In contrast, the Bureau built most of the other dams and canals within the Milk River Project on long-term contracts with local water users.

In 1908, the water users from the Dodson Dam-West formed the Upper Milk River Water Users Association and filed articles of incorporation. The Association wanted to acquire an adequate supply of water by participating in the St. Mary diversion project. Individual water users signed a vested water right contract in 1911 transferring their water rights to the Bureau except for one acre-foot per annum on land already under irrigation. The Bureau filed notices of appropriation on massive amounts of water from the Milk River between 1912 and 1918.

The three irrigation companies in Paradise Valley have had numerous disputes over right-of-way and the division of water. One canal was flumed over another and two canals ran side by side in another area. In 1920, they decided to bury the hatchet and merge into one entity. The three companies obtained a court decree establishing the Paradise Valley Irrigation District (PVID) as a public corporation. More than 60 percent of the land owners (including 60 percent of the acreage) signed a petition requesting the Bureau to deliver the district's share of Milk River and St. Mary River waters to their head gates. Soon after, a contract was signed with the Bureau. The PVID became the successor to all property and water rights of the three irrigation companies.

The PVID reconstructed, enlarged, and extended the existing canals and also built a new diversion dam. They borrowed money from two Chinook banks to finance this work and in 1921 sold long-term bonds to repay the banks. The PVID was also required to pay the Bureau for the construction of the St. Mary canal and diversion works on a per acre basis.

One thing became obvious to the PVID: The 11,247 acres in the district boundaries included a lot of land that was not suitable for irrigation. An Act of Congress in 1926 provided for reclassification of these lands. After the lands were reclassified, 4,231 acres were temporarily or permanently suspended from paying the assessments. The Bureau made an offer to reduce the amount owed, but many water users thought it was still too high and refused to sign the contract. U.S. Senator T.J. Walsh came to Chinook to discuss the dispute and while he was there, an order came from Washington, D. C. to close the PVID head gates. Mr. W. B. Sands, an attor-

(See Paradise Valley on page 4)

Paradise Valley
(Continued from page 3)

ney, who was the first president of the Paradise Valley irrigation district and later became Chief Justice of the Montana Supreme Court, told the Senator that the head gates belonged to the company. He warned him that if anyone touched the gates, they would be arrested and jailed. The Assistant Secretary of the Interior wired the district that its water would not be shutoff and that he planned to travel to Chinook to meet with the district water users, which he did. He turned out to be an ex-Montanan and a reasonable man. A 40-year contract, which the other divisions in the Milk River project had already signed, was now offered to the PVID instead of the 20-year contract previously demanded. Also, a district judge was permitted to set the per acre charge at a lower rate than originally asked.

The depression years of the 1930s were a difficult time for all irrigation districts along the Milk River. Livestock and grain prices were so low that often sending produce to market would mean the cost of freight was more than the proceeds from the sale. The only thing that saved the area was the sale of sugar beets to a factory that was built near Chinook in 1925.

By 1932, there were so many delinquent taxes that it became necessary to refinance the PVID district bonds. The principle payments on the bonds were deferred for the first five years. The PVID also obtained a loan from the Reconstruction Finance Corporation. This made it possible for the district to address another major problem. The best lands in the district, the sandy loam fields located next to the river where the canals ran, were turning white from saline seepage. The PVID purchased a dragline, ran it for 16 hours per day, and dug 70 miles of drainage ditches.

Completed in 1939, Fresno Dam improved the control and supply of water for all the Milk River irrigation districts. The flood of 1952 was a major disaster. It cut our canal system to ribbons and left gullies and sandbars in many fields. In 1956, the Bureau reclassified our lands and about 1,300 acres were restored to the assessment list. In 1963, an underground pipe 5 1/2 feet in diameter by 2,000 feet in length was installed to replace a flume that supplied water to the lower end of the district. In 1964, a flood washed around our diversion dam. Large cables had to be stretched across the wash out, and then numerous cottonwood trees, truckloads of baled straw, willows, baler twine and other materials were bound to the cables to raise the level of the river for the 1964 irrigation season. This had to be done while the Milk River was still supplying water to the irrigation districts located downstream. The PVID signed a contract with the Bureau to build a concrete dam at this site, which was completed in 1965. The PVID will make its final payment for this project in the year 2000. ■

The Birth of the Milk River International Alliance

by Paul Azevedo/Mike Dailey

The Milk River International Alliance (Alliance) is the name of a group of basin residents and natural resource managers who are beginning to work together to help resolve issues within the basin. The idea of creating a local watershed group evolved from the "Milk River: International Lifeline of the Hi-Line" workshop held in Havre on January 30. The Workshop, which was attended by over 200 U.S. and Canadian citizens, explored many of the complex water management issues facing residents of the basin as they approach the 21st Century.

Mary Ellen Wolfe, Director of the Montana Watercourse at MSU-Bozeman, who facilitated the development of the workshop, summed up the conference by noting, " One theme flowed through the entire workshop and that is—collaboration and coordination is the key for improving water management in the basin." After the workshop, over a dozen individuals expressed interest in exploring the idea of creating a locally led initiative for the basin. Capitalizing on this enthusiasm, Mary Ellen agreed to facilitate the first informal meeting in Malta on March 24.

Local water users and representatives from local, state, federal, provincial, and tribal governments attended the first meeting. Warren Kellogg of the Natural Resource Conservation Service and Mike McLane from the Department of Natural Resources and Conservation (DNRC) were invited to share their knowledge of other locally driven watershed groups in Montana. Marlene Moon of the Liberty County Conservation District described her experience working with the Sage Creek Alliance. Participants talked about the importance of using a collaborative process for solving water management issues.

> *"I hope for a collaborative approach, where all of us would work together to make the basin a better place to live."*
>
> *~Wally Elliot*

They identified issues that were raised during the Milk River workshop that could be resolved through a locally led watershed process. The participants felt another meeting was necessary to begin examining in greater depth the possibility of establishing a local group.

During the second meeting on April 16, the planning group discussed options for structuring a Milk River watershed group. Given the size of the watershed and the uniqueness of the issues (i.e. water shortages, international boundary, and tribal and provincial interests) the planning group decided that a broadly focused organizational structure would make the most sense. As it is currently conceptualized, the Alliance would serve as a clearinghouse for available resources and expertise to help other groups within the basin

(See MRIA on page 5)

(Continued from page 4)

resolve their water resource issues. A brief brainstorming session produced some ideas about roles and goals, and developed a few potential mission statements. The group also adopted its name-Milk River International Alliance. The idea of an "International" alliance was important to the group because it recognizes the importance of the basin to water users and interests on both sides of the international boundary.

During the third meeting on May 12, the planning group continued to define what the Alliance is and is not. In addition, the group refined and adopted the draft mission and goals for the Alliance (as shown in Figure 1).

The planning group also decided to form a committee to explore the possibility of hiring a watershed coordinator and another committee to explore sources of startup funds. Paul Azevedo, who has been facilitating the planning meetings, is on loan to the Alliance from DNRC.

Local citizens from all over Montana are taking a more active role in the management of their basins. How successful the Alliance will be is anyone's guess. It's up to the local citizenry. Perhaps you'll agree with Wally Elliott, a Chinook rancher and tireless participant in this planning process. He stated, "We need to communicate and educate ourselves. We all need to work together, urban and rural residents alike. Our problems are your problems. I hope for a collaborative approach, where all of us would work together to make the basin a better place to live."

MISSION STATEMENT

The Milk River International Alliance is dedicated to fostering collaborative solutions to natural resource issues to improve the quality of life in the Milk River Basin.

Goal: Solve Problems and Achieve Results

To act as a catalyst to facilitate, coordinate, and promote the development and implementation of watershed plans and projects proposed by local stakeholders and basin residents in order to solve resource issues in the Milk River Basin.

Goal: Education/Information

To pursue opportunities to raise the level of watershed awareness of Basin residents by providing a forum for the timely distribution of technical and topical information from public, private, and tribal sources.

Goal: Communication

Recognizing the diverse international interests in the Milk River Basin, it is the goal of the Milk River International Alliance to foster communication and coordination between public, private, and tribal interests and stakeholders to avoid duplication of efforts, capitalize on opportunities to solve problems, achieve goals and avoid confrontations.

FIGURE 1 Draft mission and goals adopted by the Alliance.

Everyone is encouraged to participate in the Alliance. We are still in the early planning stages and would welcome the participation and ideas from Canadian, American, and Native American residences. For more information about the Alliance or the date and place of the next meeting, please contact Kristi Kline, Havre, (265-9031); Marv Cross, Havre, (265-5516); or Michael Dailey, Glasgow, (228-2561). ■

Pop Quiz

Which irrigation district's pump house is featured in this photo?

(Answer on back page.)

Web Sites to Bookmark

The Internet is a huge information bank and finding what you are looking for can be time consuming and frustrating. Provided below is a list of web sites that relate to the Milk River Basin and Montana.

United States Bureau of Reclamation Great Plains Region
www.gp.usbr.gov
This site contains information regarding USBR activities. Click on Water Supply Management to access Agri-met and Hydromet data.

Natural Resource Information System
http://nris.mt.gov
This site contains hundreds of GIS maps that can be downloaded for free. This site also contains information on groundwater programs, the volunteer water monitoring program, and many additional links. More information is available per request, although there may be a fee associated with it.

United States Geological Survey
http://montana.usgs.gov
This site contains current stream conditions, various water use information and water reports.

Montana Online
www.mt.gov
Provides access to information regarding State government, education, employment opportunities, education, and announcements.

Montana Department of Natural Resources and Conservation Home Page
www.dnrc.state.mt.us
Privides Access to various DNRC activities and information including grants and loans, water rights, news and events, and water resource information. The DNRC Water Resource Regional Offices have online computers available for public use.

The Weather Channel Homepage
www.weather.com
Provides the latest weather forecasts for any city including current weather maps.

Happy surfing!

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Milk River Watershed News is prepared and published by DNRC—Water Management Bureau, Helena (444-6637)
Editor: Rich Moy
Graphic Designer: Shannon Voss

Facts about the Harlem Irrigation District

by Knute Kulbeck

GENERAL INFORMATION

Total Acres:	11,148.37 acres
Number of Farms:	57
Water Price(s):	$10.25 per acre
Diversions:	Three pumps stations near Zurich. A 200 HP, 100 HP and 50 HP pump capable of 85, 45 and 20 cubic feet per second, respectively. There are 2 more 50 HP pumps located just above the Fort Belknap Diversion Dam.
Miles of canals and laterals:	34 miles canal
Board Members:	Knute Kulbeck, President
	Ralph Snider, Vice President
	Matt McCann, Director
Number of employees:	Full Time: 0
	Part Time: Seasonal ditch rider (7 months)
	Secretary (monthly)

QUESTIONS

Question: How does Harlem Irrigation District charge water users?

Answer: Harlem Irrigation District charges one annual fee per acre of land irrigated based on $10.25 per acre.

Question: How are district taxes collected?

Answer: An assessment list is kept at the county treasury office which lists the annual charge per acre for each account. The Treasurer collects property taxes and deposits them in an interest bearing account until used.

Question: What types of crops are grown within the district and approximate percentages for each crop?

Answer: 60% Alfalfa, 35% small grains, and 5% miscellaneous

Question: How does the district ensure a fair distribution of water?

Answer: When the ditches are filled, the irrigators use the water when they choose to.

Question: What is the district's policy when a user is observed wasting water and how is the policy enforced?

Answer: A board member or the ditch rider will talk with the water user. There are no fines at this time.

Question: What recent improvements (if any) have been made to the district's system?

Answer: Installed two new pumps at Ft. Belknap Agency Dam and rebuilt facing on Thirtymile Dam. ■

(Answer to pop quiz: Harlem Irrigation District's pump house.)

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Milk River Irrigation Districts Form Joint Board of Control

by Mike Dailey

After many years of discussion and debate, the Milk River irrigation districts formed a Joint Board of Control (JBC) on the evening of July 26, 1999. Alan Mikkelsen, who had previous experience in forming a JBC, facilitated this historic event. Commissioners, representing each of the eight Milk River Project irrigation districts, signed the JBC agreement (see page 5). The newly formed JBC began working immediately by adopting its bylaws, electing its officers, and hiring a recording secretary.

The evening meeting opened with discussions on the proposed bylaws and agreement. Within thirty minutes, a number of minor changes were made. With nothing else to say, and after a brief awkward moment of silence, Ernie Johnson of Paradise Valley Irrigation District, piped up and said: "Paradise Valley is ready to sign!" With that, a number of district commissioners quietly went forth and signed the contract agreement, while other district boards met briefly before signing.

After all the representatives signed the JBC agreement, the JBC went to work. The first order of business was adopting the bylaws that were agreed upon earlier. Next came the election of JBC officers. Kay Blatter of Fort Belknap Irrigation District and Hugh Brookie of Malta Irrigation District were nominated for chairman. A secret ballot was cast resulting in a tie vote. After a brief recess, a motion was made, seconded and carried unanimously to elect Kay as chairman and Hugh as vice-chairman. Melvin Novak was then elected as secretary by unanimous vote.

In the absence of Kay Blatter, Hugh Brookie presided over the meeting. The group agreed to meet on the third Tuesday of each month, hired Margaret LaRoque as its recording secretary, and discussed their next meeting agenda.

Margoret LaRoque, on behalf of the Joint Board of Control, accepts the contract agreement from Alan Mikkelsen to be filed at the Phillips County Courthouse. Margaret was hired as the recording secretary for the Joint Board of Control.

In two hours, another significant chapter in the long history of the Milk River Basin has begun. Many within the Basin worked hard and had the foresight to finally bring this issue to fruition, but the real credit goes to the district representatives. They showed the courage and initiative to bring the districts together. If they didn't believe that a JBC would make a difference, it would never have happened. ■

Representatives on the Milk River JBC include the following:

Kay Blatter	Chairman	Fort Belknap Irr. Dist.	**Casey Kienenberger**	Member	Malta Irr. Dist.
Hugh Brookie	Vice-Chairman	Malta Irr. Dist.	**Knute Kulbeck**	Member	Harlem Irr. Dist.
Melvin Novak	Secretary	Glasgow Irr. Dist.	**Bim Strausser**	Member	Paradise Valley Irr. Dist.
Lee Cornwell	Member	Glasgow Irr. Dist.	**Brad Tilleman**	Member	Zurich Irr. Dist.
Jack Gist	Member	Alfalfa Valley Irr. Dist.	**Steve Tremblay**	Member	Dodson Irr. Dist.

MT Water Resources Association

Friday, Oct. 8,
2 p.m.

Chinook Motor Inn,
Chinook, MT

For more information contact Mike Murphy (406) 458-6487

Milk River International Alliance Mtg.

Monday, Oct. 25,
10:00 a.m.-3:00 p.m.

First State Bank
Community Meeting Room,
Malta, MT

For more information contact Paul Azevedo (406) 444-6635.

The Montana Office of the Bureau of Reclamation in Billings pays the cost for printing and mailing this newsletter.

International Joint Commission Tours the Milk and St. Mary Rivers

by Rich Moy

Four members of the International Joint Commission (IJC), accompanied by their staffs, and water officials from Montana, Alberta, Environment Canada, U.S. Bureau of Reclamation, and the U.S. Geological Survey (USGS), toured the St. Mary and upper portions of the Milk River basins on June 16 and 17. The IJC, consisting of six members–three appointed by the Prime Minister of Canada and three by the President of the United States, has two primary responsibilities under the 1909 Boundary Waters Treaty, besides overseeing the apportionment of flows. First, the IJC acts as a quasi-judicial body to consider applications for approval to build and operate certain projects in boundary waters and in rivers that flow across the boundary. Second, at the requests of governments, it examines and provides nonbinding recommendations on transboundary issues.

When asked why the IJC came, Tom Baldini, U.S Section Chair of the IJC, responded, "The Commission wanted to make this tour for some time because of the historical significance that the Milk and St. Mary rivers played in creating the IJC and the 1908 Boundary Waters Treaty. We feel administering the apportionment is an important part of our work and we wanted to see first hand how well it is working. We also wanted to hear about the short- and long-term needs within the basins, and to see if we can provide assistance to the two countries. It is rather unique for two countries to share resources such as those found in the Milk and St. Mary basins." The other IJC commissioners on the tour included: L.H. Legault, Canadian Section Chair; Alice Chambers, U.S. member; and Frank Murphy, Canadian member.

> *"We feel administering the apportionment is an important part of our work and we wanted to see first hand how well it is working."*
>
> *~Tom Baldini*

On the morning of June 16, the commissioners began the tour by viewing the rehabilitation of St. Mary Dam in Alberta. Dave McGee, Alberta's Prairie Regional Water Manager, pointed out that the reservoir stores over 750,000 acre-feet of water which is used to irrigate about 750,000 acres in southern Alberta. As a part of the rehabilitation project, a hydropower facility is being built into the dam. Most of the water stored in the dam originates from the St. Mary, Belly, and Waterton rivers within Glacier National Park. McGee noted that the Province of Alberta owns the dam and primary canals. He further explained that the water license or water right is issued for a flow rate under the prior appropriation doctrine, but the right is not appurtenant or tied to a specific parcel of land.

*(See **Tour** on page 3)*

A Ton of Hay!

by Dr. Jim Bauder,
Soil Scientist,
Montana State University

Each ton of hay requires 4 to 5 inches of water pumped through the plant. Typically, in a three cut management system, 35-45 percent of the yield is produced during the first growth cycle - generally before July 1. The second growth cycle will produce 30-35 percent of the yield, while the third growth cycle will produce the remaining yield. The yield of the second cutting is usually limited by the hot, dry weather, while decreased heat and shorter day length generally limit the yield of the third cutting.

So, if each ton of alfalfa hay requires 4 to 5 inches of water, the alfalfa crop will need 12 inches of water for a 3-ton yield in the first cut. Assuming you can start with a moist soil depth of three feet at the beginning of the growing season, two three-inch irrigations, spaced two weeks apart (June 1 and June 15), are a good start. Immediately after the first cutting, apply 6 inches of water. Wait three weeks and apply three more inches of water. Immediately after the second harvest, apply 6 inches of water. Again, wait three weeks and apply three more inches of water. In total, you should have applied 24 inches or two-acre feet/acre of water. You probably removed an additional 3-6 inches of water from the soil.

Total irrigation water (not counting rainfall during the season) was 27-30 inches. At a water use requirement of 5 inches per ton, this would provide the water for a 6 ton/acre crop - assuming no weevil losses, no grasshoppers, good fertility, well-drained soil, and lots of luck. ■

Tour

(Continued from page 2)

The commissioners then followed the St. Mary River upstream to the international boundary gauging station where Norm Midtlying of USGS and Jeff Woodward of Water Survey of Canada explained the apportionment of the St. Mary River under the 1921 IJC Order. They described how the gauging equipment is used to apportion flows.

The commissioners continued their journey to Sherburne Reservoir in Glacier National Park. Sherburne was completed in 1921 and has a usable capacity of 66,400 acre-feet. Susan Kelly of the Bureau of Reclamation pointed out that when water is needed, it is released from Sherburne Reservoir downstream to the St. Mary River and then diverted into the St. Mary Canal near Babb, Montana, for eventual use in the Milk River Basin of Montana. The commissioners saw the St. Mary Canal which became operational in 1921, and followed it downstream, or north, for about six miles and then east across the St. Mary River and valley through two large pipes. The commissioners viewed the canal for another 13 miles as it crossed the Hudson Bay Divide before entering the natural river channel of the North Fork of the Milk River (*see photo, right*). The entire canal system is gravity fed and almost all within the Blackfeet Reservation.

Goeff Thornburn, Canadian member, observes where the St. Mary canal enters into the North Fork of the Milk River.

IJC Commissioners touring the Milk and St. Mary River Basins (from left to right): Frank Murphy, Canadian member; Alice Chambers, U.S. member; Tom Baldini, U.S. Section Chair; and L.H. Legault, Canadian Section Chair.

The next morning, the commissioners followed the North Fork of the Milk River downstream to where it enters Alberta at the western crossing. The North Fork of the Milk River flows into the Milk River mainstem and then traverses Alberta for about 150 miles before reentering Montana at the eastern crossing. The commissioners saw remnants of the old "Spite Ditch" and portions of the southern tributaries of the Milk River that originate in the Sweetgrass Hills of Montana. (Refer to the article on page 5 about the history of the Spite Ditch.)

At the completion of the two-day tour, the commissioners heard a number of presentations at its wrap-up session. Russell Boals of Water Survey of Canada described Alberta's problem with obtaining water from the southern tributaries. Ron Bothe, Director of the Water Management Division with Alberta Environment, noted that a number of Alberta water users have complained this spring that they were not receiving water from the southern tributaries. Rich Moy of the Montana Department of Natural Resources and Conservation (DNRC) explained this was a very dry winter and early spring, and the lack of moisture was probably the culprit–not Montanans using excessive flows. Before the May rains, there was very little water flowing in the southern tributaries. He also pointed out that a similar situation exists in Sage Creek where Montanans have not been receiving water from Alberta. Canadian IJC Secretary, Murray Clamens noted that the IJC created a working group a few years back to resolve issues associated with the southern tributaries, but the group did not make recommendations. The commissioners indicated that they would consider a proposal on whether additional work is needed to resolve conflicts on the southern tributaries.

Boals and Bob Davis of the Montana USGS office described the difficulties in obtaining the necessary funds to operate the international gauging stations, and to administer the apportionment on the St. Mary and Milk rivers and the northern tributaries of the Milk-Lodge, Battle, and Frenchman. They hoped that the IJC would help seek or provide additional funding.

Boals and Bothe suggested that a more defined institutional structure should be created by the IJC to ensure that waters are apportioned and managed more efficiently in the St. Mary and Milk River basins. This suggestion is consistent with the recommendations in the IJC report entitled, " The IJC and the 21st Century," which advocated the establishment of international watershed boards. Moy noted that the Milk River International Alliance, a grassroots group of water users and officials from Montana and Saskatchewan, is beginning to lay the framework for improving water management in the Milk River Basin. He felt the draft mission and goals of this group would be similar to that of an international watershed board. Before the IJC considers creating another institutional structure, he hoped that the IJC and Alberta would give the Alliance a chance to work and encouraged Alberta water users and officials to join the group. Moy also noted that Montana was unaware of problems with the apportionment until two months ago. He said that he hoped that the appropriate state, provincial and federal officials from Montana, Alberta, USGS, Bureau of Reclamation, and Environment Canada could resolve such problems among themselves. It became obvious during the two-day tour that Montana and Alberta experience frequent water shortages in the Milk and St. Mary rivers.

Commissioners Baldini and Legault capped the two-day tour by pointing out that the IJC was available to help Alberta and Montana solve problems within the Milk and St. Mary River basins. They were appreciative of the efforts taken by everyone, especially the USGS and Environment Canada, for providing valuable information about the apportionment and management of the Milk and St. Mary rivers. They emphasized that the IJC looks forward to a cooperative and rewarding working relationship with Montana and Alberta in finding ways to improve the implementation of the apportionment and better cross-boundary water management. ■

CONTRACT of the MILK RIVER JOINT BOARD OF CONTROL

THIS CONTRACT, Made and entered into by and between the GLASGOW IRRIGATION DISTRICT, the MALTA IRRIGATION DISTRICT, the DODSON IRRIGATION DISTRICT, the HARLEM IRRIGATION DISTRICT, the PARADISE VALLEY IRRIGATION DISTRICT, the FORT BELKNAP IRRIGATION DISTRICT, the ALFALFA VALLEY IRRIGATION DISTRICT, and the ZURICH IRRIGATION DISTRICT;

In consideration of the mutual covenants herein contained and pursuant to the authority contained in M.C.A. 85-7-1601 et. seq.: Each district a party hereto agrees as follows:

The Board of Commissioners of each district in the respective discretion, deem it advisable for the best interest of their respective district, to operate, manage, supervise, and maintain the operation of the general reserved works of the Milk River Irrigation Project with each of the other districts party to this Contract.

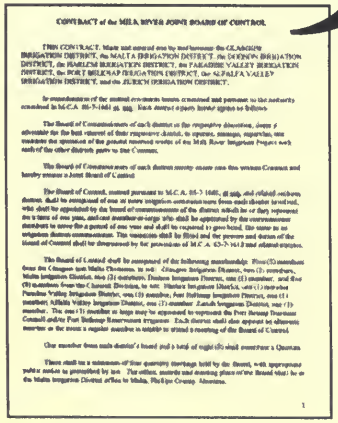
The Board of Commissioners of each district hereby enters into this written Contract and hereby creates a Joint Board of Control.

The Board of Control, created pursuant to M.C.A. 85-7-1601, et seq. and related sections thereto, shall be composed of one or more irrigation commissioners from each district involved, who shall be appointed by the board of commissioners of the district which he or they represent for a term of one year, and one member-at-large who shall be appointed by the commissioner members to serve for a period of one year and shall be required to give bond, the same as an irrigation district commissioner. The vacancies shall be filled and the powers and duties of the Board of Control shall be determined by the provisions of M.C.A. 85-7-1612 and related statutes.

The Board of Control shall be composed of the following membership: Five (5) members from the Glasgow and Malta Divisions, to wit: Glasgow Irrigation District, two (2) members; Malta Irrigation District, two (2) members; Dodson Irrigation District, one (1) member; and five (5) members from the Chinook Division, to wit: Harlem Irrigation District, one (1) member; Paradise Valley Irrigation District, one (1) member; Fort Belknap Irrigation District, one (1) member; Alfalfa Valley Irrigation District, one (1) member; Zurich Irrigation District, one (1) member. The one (1) member at large may be appointed to represent the Fort Belknap Business Council and/or Fort Belknap Reservation irrigators. Each district shall also appoint an alternate member in the event a regular member is unable to attend a meeting of the Board of Control.

One member from each district's board and a total of eight (8) shall constitute a Quorum.

There shall be a minimum of four quarterly meetings held by the Board, with appropriate public notice as prescribed by law. The office, records and meeting place of the Board shall be at the Malta Irrigation District office in Malta, Phillips County, Montana.



CONTRACT of the MILK RIVER JOINT BOARD OF CONTROL

THIS CONTRACT, Made and entered into by and between the GLASGOW IRRIGATION DISTRICT, the MALTA IRRIGATION DISTRICT, the DODSON IRRIGATION DISTRICT, the HARLEM IRRIGATION DISTRICT, the PARADISE VALLEY IRRIGATION DISTRICT, the FORT BELKNAP IRRIGATION DISTRICT, the ALFALFA VALLEY IRRIGATION DISTRICT, and the ZURICH IRRIGATION DISTRICT;

In consideration of the mutual covenants herein contained and pursuant to the authority contained in M.C.A. 85-7-1601 et. seq.: Each district a party hereto agrees as follows:

The Board of Commissioners of each district in the respective discretion, deem it advisable for the best interest of their respective district, to operate, manage, supervise, and maintain the operation of the general reserved works of the Milk River Irrigation Project with each of the other districts party to this Contract.

The Board of Commissioners of each district hereby enters into this written Contract and hereby creates a Joint Board of Control.

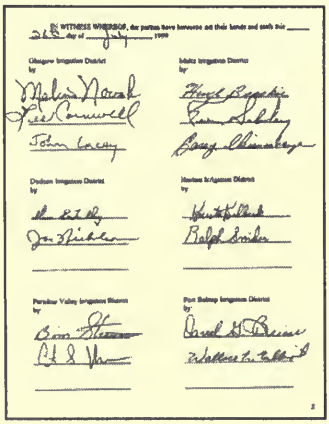
The Board of Control, created pursuant to M.C.A. 85-7-1601, et seq. and related sections thereto, shall be composed of one or more irrigation commissioners from each district involved, who shall be appointed by the board of commissioners of the district which he or they represent for a term of one year, and one member-at-large who shall be appointed by the commissioner members to serve for a period of one year and shall be required to give bond, the same as an irrigation district commissioner. The vacancies shall be filled and the powers and duties of the Board of Control shall be determined by the provisions of M.C.A. 85-7-1612 and related statutes.

The Board of Control shall be composed of the following membership: Five (5) members from the Glasgow and Malta Divisions, to wit: Glasgow Irrigation District, two (2) members; Malta Irrigation District, two (2) members; Dodson Irrigation District, one (1) member; and five (5) members from the Chinook Division, to wit: Harlem Irrigation District, one (1) member; Paradise Valley Irrigation District, one (1) member; Fort Belknap Irrigation District, one (1) member; Alfalfa Valley Irrigation District, one (1) member; Zurich Irrigation District, one (1) member. The one (1) member at large may be appointed to represent the Fort Belknap Business Council and/or Fort Belknap Reservation irrigators. Each district shall also appoint an alternate member in the event a regular member is unable to attend a meeting of the Board of Control.

One member from each district's board and a total of eight (8) shall constitute a Quorum.

There shall be a minimum of four quarterly meetings held by the Board, with appropriate public notice as prescribed by law. The office, records and meeting place of the Board shall be at the Malta Irrigation District office in Malta, Phillips County, Montana.

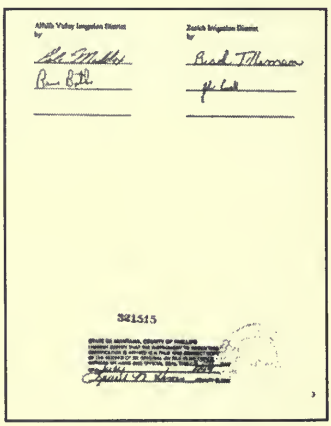
1



IN WITNESS WHEREOF, the parties have hereunto set their hands and seals this ____ day of July, 1999

Glasgow Irrigation District
by
Malta Irrigation District
by
Dodson Irrigation District
by
Harlem Irrigation District
by
Paradise Valley Irrigation District
by
Fort Belknap Irrigation District
by

2



Alfalfa Valley Irrigation District
by
Zurich Irrigation District
by

321515

STATE OF MONTANA, COUNTY OF PHILLIPS

3

The Water War that Almost Was

by Rich Moy

As Mark Twain's common saying goes, "Whiskey is for drinking, water is for fighting." Well, that fight almost broke out between pioneers of Montana and Alberta over water for irrigation from the St. Mary and Milk rivers. The war clouds began forming when Colonel E.S. Nettleton, Chief Engineer, U.S. Department of Agriculture, proposed to divert St. Mary water into the Milk River for irrigation in 1883.

A few years later, Canada, by an Act of Parliament, incorporated the Alberta Irrigation Company and empowered the Company to begin pursuing irrigation developments in southern Alberta. The race was on. In 1885, a Canadian survey demonstrated the feasibility of irrigating a large tract of southern Alberta land by diverting water from the St. Mary River near the international border. In 1898, construction commenced on the southern Alberta irrigation project. Not to be left behind, the newly formed Reclamation Service (now Bureau of Reclamation) determined that it was feasible to construct a canal from the St. Mary River across the Hudson Bay Divide into the Milk River to provide more water for irrigation in the lower Milk River Basin in Montana. Construction on the St. Mary diversion canal finally began in 1906.

Remnants of the Spite Ditch near the Lethbridge Coutts Highway.

The problem with the United States' plan was that the Milk River leaves Montana and has to flow across Alberta for about 150 miles before re-entering Montana. Canada, concerned over the potential loss of St. Mary River water to Montana, had its engineers scheming in 1901 to determine a feasible way to divert Milk River water or re-divert St. Mary water for irrigation use between Raymond and Lethbridge, Alberta.

The first section of the Canadian Milk River Canal or more commonly called the "Spite Ditch", was completed in 1903. The canal was actually an undertaking of the Alberta Railway and Irrigation Co., which contracted with Adelbert Cazier, a Utah construction man to do the job. Cazier, at that time, was building a rail line at Lewistown, Montana. Cazier's crews had 20 miles of the "Spite Ditch" completed before the freeze up in 1903.

The construction of the Spite Ditch alarmed Montana irrigators and Reclamation Service, who prompted the United States Government to protest. Teddy Roosevelt came to the rescue. He and Congress refused to recognize Canada's right to the water she was proposing to use. In 1905, some say Canada invited the United States to suggest a plan for settling this dispute and others suggest that the U.S. offered to negotiate.

In any case, The International Waterways Commission between the United States and Great Britain had begun to draft a treaty covering matters of use of boundary waters between the U.S. and Canada, and proposed to establish a joint commission to administer the treaty. The treaty was signed in 1909 and Article VI of the treaty expressly provides for the handling of the St. Mary and Milk rivers. The treaty established the measurement and division of water between Alberta and Montana and that the apportionment was to be administered by the International Joint Commission (IJC). The actual apportionment methodology and division of waters was hotly debated for a number of years before being settled on October 4, 1921. As the photo above shows, some of the old banks of the Spite Ditch can still be seem from the Lethbidge Coutts highway. The ditch is a vivid reminder that water shortages and problems have not gone away, and communications between Alberta and Montana are still key to better management. ■

Web Sites to Bookmark

The Internet is a huge information bank and finding what you are looking for can be time consuming and frustrating. Provided below is a list of web sites that relate to the Milk River Basin and Montana.

United States Bureau of Reclamation Great Plains Region
www.gp.usbr.gov
This site contains information regarding USBR activities. Click on Water Supply Management to access Agri-met and Hydromet data.

Natural Resource Information System
http://nris.mt.gov
This site contains hundreds of GIS maps that can be downloaded for free. This site also contains information on groundwater programs, the volunteer water monitoring program, and many additional links. More information is available per request, although there may be a fee associated with it.

United States Geological Survey
http://montana.usgs.gov
This site contains current stream conditions, various water use information and water reports.

Montana Online
www.mt.gov
Provides access to information regarding State government, education, employment opportunities, education, and announcements.

Montana Department of Natural Resources and Conservation Home Page
www.dnrc.state.mt.us
Privides Access to various DNRC activities and information including grants and loans, water rights, news and events, and water resource information. The DNRC Water Resource Regional Offices have online computers available for public use.

The Weather Channel Homepage
www.weather.com
Provides the latest weather forecasts for any city including current weather maps.

Happy surfing!

Planning Committee

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MT DNRC — Havre
Water Resources Regional Office
210 Sixth Avenue
P. O. Box 1828
Havre, MT 59501-1828
(406)265-5516

Michael Dailey
MT DNRC — Glasgow
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P. O. Box 1269
Glasgow, MT 59230-1269
(406)228-2561

Kristi Kline
City of Havre
P. O. Box 231
Havre, MT 59501
(406)265-9031

Wallace Elliot
Fort Belknap Indian Irrigation District
[illegible]

Dan Spencer
Fort Belknap Indian Irrigation District
Bureau of Indian Affairs
P. O. Box 98
Harlem, MT 59526
(406)353-2905

Brent Esplin
Bureau of Reclamation
Montana Area Office
2900 Fourth Avenue North
P. O. Box 30137
Billings, MT 59107-0137
(406)247-7489

Melvin Novak
Glasgow Irrigation District
#15 Irrigation Street
P. O. Box 271
Glasgow, MT 59230
(406)228-2346

Milk River Watershed News is prepared and published by DNRC—Water Management Bureau, Helena (444-6637)
Editor: Rich Moy
Graphic Designer: Shannon Voss

Alliance and Joint Board of Control Team Up

by Paul Azevedo

On September 21, Wally Elliot representing the Milk River International Alliance (MRIA), and Kay Blatter, Chair of the Milk River Joint Board of Control (JBC), made a joint presentation to the Montana Reserved Water Rights Compact Commission at its public meeting in Malta. They presented the Compact Commission with information on four additional tributary storage sites that appear to offer the potential for developing a more reliable water supply for residents within the basin.

As part of the water right negotiations with the Gros Ventre and Assiniboine Tribes on the Ft. Belknap Reservation, the Compact Commission is seeking ways to improve the management and supply of water in the Milk River Basin. It is trying to satisfy the tribal water rights without impacting existing water users. To help the Compact Commission, the MRIA appointed a technical committee to review and compile existing information and studies on the feasibility of other storage sites in the U.S. portion of the basin.

On Tuesday, September 22, Barb Cosens, legal council for the Compact Commission, presented the new storage information to the Tribal and Federal negotiators. They, in turn, assigned their technical teams to review the data. The storage capacity of these sites range from 10,650 acre-feet to 40,000 acre-feet. Besides helping to mitigate the impacts associated with fulfilling the Tribes' water rights, the additional storage capacity would also provide increased recreational opportunities and flood control. All four reservoir sites are located downstream of the primary diversion to the Fort Belknap Reservation.

The MRIA and JBC recognize that the Gros Ventre and Assiniboine Tribes have a legal right to develop irrigation on the reservation. They feel strongly, however, that existing non-tribal irrigation projects within the basin must not be adversely affected. They believe that the development of new tributary storage will help reduce the impacts of new tribal water developments from the Milk River mainstem. A special thanks goes to Leon LaSalle[illegible]ey and Marv Cross for gathering t[illegible], and to Wally Elliot and Kay Blatter[illegible]e presentation to the Compact Commission. The MRIA will continue tracking the progress of negotiations. If you have any questions or comments about additional mitigation measures, please contact Barb Cosens at the Compact Commission, 406-444-6844 ■

Milk River Water Supply is Near Normal

The Milk River Basin water supply is near normal as the 1999 irrigation season comes to a close. Water users who rely on stored water will have near normal carryover storage by the end of the season, reducing the potential risk of low water supplies next spring. Storage in both Fresno and Nelson Reservoirs were near or slightly above average on September 1. Lake Sherburne storage, which supplies water to the Milk River Basin, had about twice the normal storage for September 1. However, planned maintenance on the St. Mary Canal, which transports water to the Milk River Basin, will result in a shutdown of the canal and all of the Lake Sherburne stored water will not be transferred to the Milk River Basin this fall. The Bureau of Reclamation will discontinue diverting water through the St. Mary Canal on September 20, allowing the maintenance to begin on September 25. The remaining storge in Lake Sherburne will be used to begin diverting water into the St. Mary Canal early next spring.

No water supply shortages occurred during the past season thanks to timely May and June rains. ■

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MILK RIVER WATERSHED NEWS

December 1999
VOLUME 2 NUMBER 4

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Bureau of Reclamation Regional Feasibility Study
By Lenny Duberstein

FORT BELKNAP WATER RIGHTS COMPACT NEGOTIATIONS MOVING FORWARD

By Joan Specking
Montana Reserved Water Rights Compact Commission

Negotiations to quantify the water rights of the Gros Ventre and Assiniboine Tribes of the Fort Belknap Reservation continue to move in a positive direction. Formal parties to the negotiations include the Tribes, the United States, and the State (represented by the Montana Reserved Water Rights Compact Commission). Negotiations are part of the state general stream adjudication, which is designed to settle all pre-1973 water rights and all federal and Indian reserved water rights in Montana.

Negotiators have focused on an approach that would allow the Tribes to continue their current 125 cfs diversion from the natural flow of the Milk River plus develop a new 60,000 acre foot off-stream reservoir with 520 cfs pump lift capacity, without impacting off-Reservation water users in the basin. A great deal of technical work is required to help formulate practical solutions to achieve this goal. A joint technical team, comprised of hydrologists, agricultural engineers and other technical experts from the Compact Commission; the Bureau of Reclamation (USBR); Natural Resources Engineering Consultants (NREC), the Tribal consultants; and United States consultants; has focused its work on looking at various practical solutions.

(Continued on page 2)

The Montana Water Resources Association (MWRA) congratulates the Milk River Joint Board of Control at the October MWRA meeting held in Chinook.

Left to Right: Bud Mavencamp (Manager for Malta Irrigation District), Mike Murphy (Executive Secretary for the MWRA), and John Overcast (President of Paradise Valley Irrigation District).

SEASONS GREETINGS HAPPY NEW YEAR

PLEASE RETURN

The Joint Board of Control and Milk River International Alliance will sponsor meetings with the Reserved Water Rights Compact Commission to discuss the revised draft of the Fort Belknap Compact in February.

Stay Tuned.

John Dalton will explain his "On Farm Efficiency Report" on January 11 and 12 in the following locations:

Meeting in Chinook
January 11
1-3 p.m.
Chinook Motor Inn

Meeting in Malta
January 12
1-3 p.m.
Community Room in the First State Bank

Meeting in Glasgow
January 12
7-9 p.m.
Glasgow City-County Library

The Montana Office of the Bureau of Reclamation in Billings pays the cost for printing and mailing this newsletter.

Negotiations
(Continued from page 1)

The alternative appearing to hold the most promise for maintaining the current water supply for off-Reservation water users while satisfying the Tribal proposal, is to protect tributary water users by subordinating the tribal water right to them and to protect mainstem water users through improvements to the Milk River Project. (Tributaries contribute water to the natural flow of the Milk River.) Due to use of flood irrigation and lack of storage on upstream tributaries to the Milk River, the only practical way to protect tributary water users is to subordinate the priority of the Tribes' water right to these tributary water rights holders. This would protect the tributary users from a call on their water rights. If the negotiating parties determine that this is the appropriate solution, delivery of natural flow to the Tribes will require calculation of the natural flow on a daily basis and operation of the Milk River Project to deliver the natural flow. The joint technical team is working to develop a method to calculate the daily natural flows of the river.

This approach focuses the impact of new Tribal water development on the mainstem of the Milk River. To eliminate that impact, the Compact Commission is working with the irrigation districts and other water users to identify alternatives for improving water supply on the Milk River. It appears that most of the impact can be mitigated through improvements to existing storage and to the management of mainstem storage and water distribution. These suggested improvements include:
(1) addition of a pump lift to augment filling of Nelson Reservoir;
(2) construction of a secondary dam near the current inlet to Nelson Reservoir to increase storage and allow improved lake level regulation;
(3) enlargement of Fresno Reservoir;
(4) prospective storage sites requested for study by the Milk River International Alliance (MRIA) and the newly formed Joint Board of Control for the Irrigation Districts including one on 30-Mile Creek north of Harlem, and two on Beaver Creek;
(5) management of Bowdoin National Wildlife Refuge to augment storage as described below; and
(6) improvements in efficiencies both on-farm and conveyance and possible voluntary acreage or water usage reduction.
The USBR has begun a study to compare these proposals and past proposals to augment water supply in the Milk River. Results are expected in the fall of 2000. The study should provide negotiators and water users with sufficient information to narrow the list of alternatives.

In negotiations with the U.S. Fish and Wildlife Service for reserved water rights for the Bowdoin National Wildlife Refuge, the Compact Commission and the U.S. Fish and Wildlife Service have been considering an alternative that would reduce salinity at the Refuge and allow discharge of Refuge water to Beaver Creek. This option would bring water into Bowdoin from Beaver Creek, create a flow-through system and, as a secondary benefit, store some additional water for the Glasgow Irrigation District. Spring flood water, which normally escapes impoundment, would be held in Bowdoin and released back into Beaver Creek in late summer for downstream irrigators. Care would be taken to maintain releases of saline water at levels acceptable to downstream irrigators and the Montana Department of Environmental Quality. The Compact Commission has started working with the irrigators in lower Beaver Creek and the Milk River downstream from Bowdoin.

In addition to changes in storage, the negotiating parties believe that improvements in the management of the Milk River Basin may help facilitate more efficient delivery of water to both private irrigators and the Tribes. Negotiators are considering the formation of an umbrella organization called the Milk River Authority to coordinate management and enforcement among federal, state, and local agencies and irrigation districts in the Milk River Basin. It is proposed that the Milk River Authority, or MRA, would consist of nine members including: two from the Gros Ventre and Assiniboine Tribes; three from the Joint Board of Control

(See Negotiations on page 4)

History of Rock Creek Canal Company

By Marion Hellstern

GENERAL INFORMATION

Total Acres:	*8,560 acres*
Number of Farms:	*Approximately 15*
Water Price(s):	*$40 per Share*

Diversion: *Approximately 10 miles northeast of Hinsdale*

Miles of canals and laterals: *8 miles of main canal and 10 miles of laterals*

Board Members:	*Bill Black,* ***President***
	Elliot Strommen, ***Vice President***
	Marion Hellstern, ***Treasurer/Secretary***
	Howard Cornwell, ***Director***
	Jim McColly, ***Director***
Number of employees:	***Full Time:*** *0*
	Part Time: *Secretary and Bookkeeper as needed*

Henry H. (H.H.) Nelson, having a difficult time raising sheep near Cascade, moved his operation north near Vandalia and staked out the first large irrigation project in the Milk River Basin. He filed the first claim to divert 250 cubic feet per second (cfs) from Rock Creek on August 14, 1901 as he planned to irrigate the Milk River flat, which is located between Rock Creek and Buggy Creek. The point of diversion was at the first riffle on the south bank of Rock Creek, below the old N-N ranch headquarters.

On November 1902, William M. Wooldridge, Fred Hellstern, Jerome Hutchins, Samuel E. Ruyle and Joseph H. Mayhew joined together and staked out and filed a second claim to divert an additional 750 cfs from Rock Creek. The diversion point was located on the left (south) bank of Rock Creek about sixty feet northwest of the windmill tower and two hundred twenty-five feet north of the Alfred Whitmore house (near the current dam site).

On December 8, 1902, Nelson joined the other water users and, together, they formed the Rock Creek Canal Company. They filed a claim for 60 shares, with each share equivalent to 160 acres for a total of 9600 acres. The notice of the Canal Company was filed with the Valley County Clerk and Recorder.

Archie Mahon, a Glasgow engineer who later worked for the State Engineer's Office in Helena, started surveying, planning, and engineering the project. The stockholders decided to either do the work themselves or hire someone to do it for them. Labor was paid at $1 per day for each man and horse team. The men generally stayed or boarded at the work camp for 25 cents per day where Mrs. Anna Miller did the camp cooking.

They first built a diversion dam that consisted of a crib of logs filled with rock and covered with planks. Willows were bunched together and held down with rocks below the dam to break the fall of water. All the original head gates and checks, including the main gates, were made of timber planks.

In early 1903, the stockholders began digging the primary canal. The majority of the work was done with two handled slips pulled by a team of horses. H.H. Nelson used a 24-horse elevating grader for his share of the work. Construction of the canal was completed in the fall of 1903. A large tractor was used for part of the plowing.

In the spring of 1904, Wooldridge, Hellstern, Hutchins, Ruyle, Mayhew and Nelson all agreed to sign their water rights over to the Rock Creek Canal Company.

My father, Fred Hellstern, stopped at the 1904 World's Fair in St. Louis on his way to visit his family in Arkansas. He entered his potatoes and rutabagas at the fair, which were grown with Rock Creek water, and won a bronze medal.

The winter of 1906-07 was terrible. Snow covered the ground up to three feet deep and the temperature remained below zero for days. Many stockmen lost their cattle. Ranchers that were able to move their cattle to the irrigated hay lands were able to avoid complete disaster.

Around the late 1920s, water started washing around the ends of the diversion dam. Dirt was added as fill, but it continued to wash. The following spring, pilings with planking were installed to break the force of the ice. This repair was successful and in fact, these pilings are still in good shape today.

In 1927, the Canal Company was re-incorporated when its first charter expired. The value of each share was than set at $800 with an annual assessments limited to 5 percent of the share value, or $ 40 per year. Unanimous agreement was required to levy more than the 5 percent per share in any given year.

In August of 1933, the Rock Creek Canal Company filed a lawsuit in district court to clarify or adjudicate its water rights. A decree on the Rock Creek mainstem was handed down on September 16, 1933. Palmer Gaasch was given the first right to 1 cfs and seventh right to 140 cfs. Rock Creek Canal Company was given second right to 300 cfs and third through sixth rights totalling 26 cfs.

In August of 1985, the Montana Water Court, in its preliminary decree on Rock Creek, upheld the district court decree of 1933. Rock Creek Canal Company now has a current water right to 18,680 miner's inches or 467 cfs with a November 18, 1902 priority date.

The original log crib dam was later replaced with planks and

(Continued on page 4)

Rock Creek
(Continued from page 3)

concrete. It is now a concrete overflow diversion dam that spans Rock Creek. All the checks in the main canal have been replaced with concrete and all the gates to the laterals have been replaced with steel culverts that have steel shut-off gates.

There are no storage facilities on the project. The U.S. Bureau of Reclamation had identified two reservoir sites. The best one is located in Rock Creek Canyon approximately 10 miles north of the diversion dam. Although this reservoir site was described as excellent, the stockholders felt the cost to construct the reservoir was too high and therefore, not economically feasible.

Today, the Rock Creek Canal Company has 53.5 active shares for a total of 8,560 acres. The assessment is still maintained at $40 per share which hasn't changed since it was set in 1927. Hay is the primary crop. About a third of the land is a combination of alfalfa, native grass, and small grain. Those that have succeeded on the project have used the land as a feed base for wintering livestock. ■

Marion Hellstern, long-time secretary for Rock Creek Canal Company, stands atop the Rock Creek Diversion Dam.

Negotiations
(Continued from page 2)

of the Milk River irrigation districts; one from the Montana Department of Natural Resources and Conservation; one from the USBR; one from the Bureau of Indian Affairs; one selected by all the others; and an advisory member from the U.S. Geological Survey.

The basic duties being proposed for the MRA are the coordination of storage and release of water in the basin, as well as the enforcement of the delivery and distribution of water at diversion points on the mainstem of the Milk River as bound by State, Tribal, and federal law and the proposed compact. The MRA as proposed would not have the authority to determine water rights. The irrigation districts, BIA, and the Tribes would continue to manage water distribution within canal systems once the water leaves the mainstem of the Milk River.

Several other management improvements under consideration by negotiators include the development of a common computer database that can be used by the irrigation districts, the USBR, the Tribes, and the Montana Department of Natural Resources and Conservation to coordinate and manage water delivery in the basin. The Commission staff has been working with the irrigation districts and the Tribes to develop the database and train staff to maintain it. The database could provide opportunities for improved management far beyond the scope of negotiations.

A compact represents a final settlement of the water rights of the Tribes. It is essential that the solutions contained in the compact are ones that both the Tribes and their neighbors can live with. None of the concepts discussed in this article are agreed on as being final, and they are all still being studied by the negotiators. The negotiating parties need input from local water users and irrigation districts regarding all aspects of the proposed compact. The Compact Commission holds periodic public meetings in the area, maintains frequent contact with the irrigation districts, and publishes notices of negotiations which are always open to the public.

The negotiators anticipate releasing a second draft compact to the public in January 2000, reflecting the current status of proposals. The Commission staff will be available to meet with irrigation districts, the Joint Board, and the MRIA and other interested parties on request to explain the draft.

It is important that interested citizens in the Milk River basin, including its tributaries upstream from the Fort Belknap Reservation, get involved and voice their concerns and ideas at an early stage in the negotiations. The compact needs citizen support to pass the Montana Legislature and the goal is to settle these negotiations by the 2001 Legislature. Settlements of these water rights will benefit everyone in the basin by removing the uncertainty of what the Tribal water right is and how it might impact the basin in the future.

For questions or comments regarding the negotiations and the draft compact, please call Barbara Cosens or Bill Greiman at the Montana Reserved Water Rights Compact Commission in Helena, (406) 444-6841. ■

Water Conservation in the Milk River

By Brent Esplin, USBR

What is water conservation? To some, it has a negative meaning as it implies that conserved water will be given to someone else for another purpose. A better term to use is efficient water management. This is the practice of managing a limited water supply to meet all beneficial uses. Beneficial uses are defined under Montana Law and include irrigation, agriculture, domestic, fish and wildlife, industrial, recreation, mining and other uses.

Why did the U.S. Bureau of Reclamation (USBR) create a new water conservation program? Actually, the USBR had no choice. The Water Conservation Field Service Program (Conservation Program) was created in response to the settlement of a lawsuit filed by environmental groups. These groups charged the USBR with not taking an active role in implementing the water conservation provisions of the Reclamation Reform Act of 1982 (RRA). The Act specifically states, "Each [irrigation] district that has entered into a repayment contract or water service contract [with USBR] . . . shall develop a water conservation plan which shall contain definite goals, appropriate water conservation measures, and a time schedule for meeting the water conservation objectives." Therefore, on December 10, 1996, USBR Commissioner Martinez signed a memorandum implementing the new Conservation Program.

The goal of the Conservation Program is to help affected irrigation districts develop and implement water conservation plans. To implement this goal, the USBR has made technical and financial assistance available to the irrigation districts. Technical assistance can be used to evaluate different options for implementing cost-effective water conservation measures such as making physical changes in the irrigation system or improving the administration and management of the system, or both. Money is also available through grants to assist with implementing the changes identified in the water conservation plans.

The USBR has taken a proactive approach in promoting the development of water conservation plans in the Milk River Basin. Most of the work is in cooperation with the eight Milk River irrigation districts, Montana State University Extension Service, and local and state agencies including the Department of Natural Resources and Conservation (DNRC). Ongoing activities under the Conservation Program include the following.

USBR and DNRC are currently working with the Glasgow, Malta, and Paradise Valley Irrigation Districts to evaluate the efficiency of their existing operations. These evaluations will determine what type of measures, whether physical or managerial, are most effective for improving overall system efficiencies. In addition, the evaluation will look at where additional data and measuring devices are needed for improving water accounting and delivery.

Besides technical assistance, financial assistance is available for implementing approved water conservation plans. For instance, the Malta Irrigation District has received a cost-share grant to implement a water measurement demonstration project. The goal is to establish a remote monitoring system before the beginning of the next irrigation season that allows the district to determine flows and discharges at various points in its conveyance system. This information should help the district optimize diversions and use of water in the system.

The Milk River AgriMet Demonstration Program began in the spring of 1998 with the installation of three automated weather stations located near Harlem, Malta, and Glasgow. The stations are used to calculate potential evapotranspiration (ET) rates for various crops produced near these gages. This information should help producers do a better job managing the scheduling of irrigation water. Benefits from the program could be many—from increasing yields, to improving water quality and the development of a better understanding of the relationship between soil and crop water. For more information, contact the Phillips Conservation District at (406) 654-1334 or visit the USBR web site at www.gp.usbr.gov.

USBR also began working collaboratively with Montana State University Extension Service to conduct water use efficiency demonstrations and education seminars in 1998. A series of scoping meetings were first conducted to assess the basin needs. From this assessment, a series of newsletter and newspaper articles were developed. In addition to the educational articles, demonstration projects and educational seminars will be developed as the need arises to address specific concerns of local producers.

To address the many water management challenges in the Milk River Basin, local participation and guidance is paramount. The USBR, through its Conservation Program, will continue to work with the irrigation districts, the Milk River Joint Board of Control, the Milk River International Alliance, and others to evaluate, plan, and implement cost-effective water management measures. For more information contact Brent Esplin at 247-7489 or Mike Dailey, DNRC at 228-2561.

Web Sites to Bookmark

United States Bureau of Reclamation Great Plains Region
www.gp.usbr.gov
Natural Resource Information System
http://nris.mt.gov
United States Geological Survey
http://montana.usgs.gov
Montana Online
www.mt.gov
Montana Department of Natural Resources and Conservation Home Page
www.dnrc.state.mt.us
The Weather Channel Homepage
www.weather.com

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High Winds Damage Lake Sherburne Dam

By Steve Davies, USBR

Lake Sherburne Dam in Glacier County received minor damage to the upstream face during a period of high winds on November 12 of this year. Large waves in the reservoir, created by force winds estimated at 90 miles per hour, damaged a portion of the protective rock cover on the upstream face of the dam. The damage was only superficial, with the largest damaged area being about 45 feet wide and 25 feet long, and two to three feet deep into the protective layer of the dam (See right figure). Two other smaller damaged areas were about 4 feet wide by 6 feet long, and only about 2 feet deep.

There was no significant structural damage to the 78-year old dam. Bureau of Reclamation staff, however, worked quickly to repair the damage before winter weather set in. Heavy rains occurring upstream of the dam on November 12 and 13 raised the reservoir water elevation too high to begin repairs immediately. After lowering the reservoir about eight feet to allow equipment access to the area, the crew completed the majority of the necessary repairs on the 3rd of December. The repairs consisted of cleaning out the damaged area and placing new protective rock. The rockfill will be grouted next spring when weather permits.

Bureau of Reclamation crew using a [illegible] to repair the damage to the front face of Lake Sherburne Dam.

Lake Sherburne Dam, originally constructed from 1914 to 1921, is an earthfill dam with a maximum height of about 108 feet. The dam has undergone spillway and outlet works modification in 1960, and was raised higher in 1984. Storage in the reservoir at the time of the November incident was about 38,000 acre-feet, which is 56 percent of the full capacity of about 68,000 acre-feet. The dam is owned and operated by the Bureau of Reclamation and it provides an important source of water to irrigators in the Milk River Basin. ■

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